



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,299	04/02/2004	Bunya Sato	09792909-5849	1885

26263 7590 06/15/2006

SONNENSCHN NATH & ROSENTHAL LLP
P.O. BOX 061080
WACKER DRIVE STATION, SEARS TOWER
CHICAGO, IL 60606-1080

EXAMINER

CHUO, TONY SHENG HSIANG

ART UNIT PAPER NUMBER

1745

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/817,299	SATO, BUNYA	
	Examiner	Art Unit	
	Tony Chuo	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: in figure 6B, the upper block portion "11b1", the block base portion "11b2" and bridge portion "11a" are not shown. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. The disclosure is objected to because of the following informalities: on page 9, line 27, the word "call" should be changed "cell". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Killebrew et al (US 6296970). Regarding claim 1, the Killebrew reference teaches a battery pack housing a plurality of battery cells "112A" & "112B" and respectively connecting positive electrodes and negative electrodes of plurality of battery cells to a conductive terminal board "102A" to be led out to outside terminals, wherein conductive terminal board has a structure in which a first member "108A" is joined with a second member "106A" such that first member having excellent weldability is arrayed in a plurality-of-islands state in second member having excellent conductivity, and the positive electrodes and the negative electrodes of battery cells are welded to first member of conductive terminal board through resistance welding (See Figure 1B). Although the case of the battery pack is not shown, it is well known in the art that battery cells are enclosed inside a case. Regarding claim 2, the reference also teaches the first member "108A" of conductive terminal board that is joined with the second member "106A" such that one surface of the first member shows an islands-like shape and the other surface thereof shows a shape that the island portions are connected to each other (See Figure 1B). Regarding claim 4, the reference also teaches a first member "108" of said conductive terminal board that is provided with slits "520" and the

positive and negative electrodes of battery cells are welded through a series-spot-electricity-welding such that said slits are straddled by electrodes thereof (See Figure 5C).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killebrew et al (US 6296970) in view of Snyder (US 5948559). The Killebrew reference is applied to claim 1, 2, and 4 for reasons stated above. However, the reference does not expressly teach a first member of conductive terminal board that contains any one of or plural kinds among: nickel (Ni), nickel alloy, iron (Fe), iron alloy, stainless steel, zinc (Zn), zinc alloy, platinum (Pt), platinum alloy; and a second member that contains any one of or plural kinds among: copper (Cu), copper alloy, aluminum (Al), aluminum alloy, silver (Ag), silver alloy, gold (Au), gold alloy, beryllium (Be), beryllium alloy, rhodium (Rh), rhodium alloy, tungsten (W), tungsten alloy, molybdenum (Mo) and molybdenum alloy. The Snyder reference does teach a first member "20" that contains nickel and a second member "24" that contains gold (See Figure 2 and column 4, lines 17-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Killebrew battery pack to include a first member of the

Art Unit: 1745

conductive terminal board that contains nickel and a second member that contains gold because it is well known in the art that nickel has good welding properties and gold is a excellent electrical conductor.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Killebrew et al (US 6296970) in view of Hasenauer (US 4581306). The Killebrew reference is applied to claim 1, 2, and 4 for reasons stated above. However, the reference does not expressly teach a first member of conductive terminal board that contains any one of or plural kinds among: nickel (Ni), nickel alloy, iron (Fe), iron alloy, stainless steel, zinc (Zn), zinc alloy, platinum (Pt), platinum alloy; and a second member that contains any one of or plural kinds among: copper (Cu), copper alloy, aluminum (Al), aluminum alloy, silver (Ag), silver alloy, gold (Au), gold alloy, beryllium (Be), beryllium alloy, rhodium (Rh), rhodium alloy, tungsten (W), tungsten alloy, molybdenum (Mo) and molybdenum alloy. The Hasenauer reference teaches battery cell connecting elements that are made of copper, aluminum, gold, silver, rhodium, and nickel (See column 3, lines 29-38). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Killebrew battery pack to include a first member of the conductive terminal board that contains nickel and a second member that contains copper, aluminum, gold, silver, or rhodium because it is well known in the art that nickel has good welding properties and copper, aluminum, gold, silver and rhodium are excellent electrical conductors.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571) 272-0717. The examiner can normally be reached on M-F, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC


PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER